

The invention claimed is as follows.

1. In a rotary latch of the type having a rotating latch member and a pivoting release member which selectively interact to retain and release a lock strike, the improvement comprising:

a rigid, generally U-shaped housing defined by a base and opposing sidewalls upstanding from opposite sides of said base in a mutually parallel relationship, with a set of laterally aligned outwardly opening strike notches in said sidewalls to selectively receive a portion of the lock strike therein;

a first set of mounting apertures extending laterally through said sidewalls of said housing about a first pivot axis disposed generally perpendicular with said sidewalls and spaced laterally apart from said strike notches;

a first retainer extending through said first set of mounting apertures, and pivotally mounting said latch member in said housing between said sidewalls for rotation in a plane generally parallel with said sidewalls;

a second set of mounting apertures extending laterally through said sidewalls of said housing about a second pivot axis disposed generally parallel with and spaced laterally apart from said first pivot axis; and

a second retainer extending through said second set of mounting apertures, and pivotally mounting said release member in said housing between said sidewalls for rotation in a plane generally parallel with said sidewalls, and selective engagement with said latch member; said first pivot axis and the second pivot axis being laterally aligned on said sidewalls to facilitate mounting said rotary latch in both left and right hand latch locations.

2. A rotary latch as set forth in claim 1, including:

a mounting bracket adapted to mount said housing on an associated support surface, and including first and second fasteners connected with said first and second retainers in a generally coaxial relationship to mount said housing in both the left and right hand latch locations.

3. A rotary latch as set forth in claim 2, wherein:

said housing includes an upstanding end wall formed integrally with said base and said sidewalls at a location adjacent to said strike notches to rigidify said housing.

4. A rotary latch as set forth in claim 3, wherein:

said housing includes an open, U-shaped end disposed opposite said end wall.

5. A rotary latch as set forth in claim 4, wherein:

said first and second pivot axes lie in a plane disposed generally parallel with said base.

6. A rotary latch as set forth in claim 5, wherein:

said housing has a die cast construction.

7. A rotary latch as set forth in claim 6, wherein:

said latch member is configured and positioned to extend completely across said strike notches for improved engagement with the lock strike.

8. A rotary latch as set forth in claim 7, wherein:

said first set of mounting apertures has a size and shape substantially identical with the size and shape of said second set of mounting apertures.

9. A rotary latch as set forth in claim 8, wherein:

said first and second retainers have a substantially identical size and shape.

10. A rotary latch as set forth in claim 9, wherein:

said first and second sets of mounting apertures each include a circular aperture disposed in a first one of said sidewalls, and a non-circular aperture disposed in a second one of said sidewalls.

11. A rotary latch as set forth in claim 10, wherein:

said first and second retainers each have a hollow cylindrical body, with an enlarged head end thereof received in said circular aperture of said first one of said sidewalls, and a shank end thereof received in said non-circular aperture of said second one of said sidewalls, and deformed therein to secure said retainers in said housing.

12. A rotary latch as set forth in claim 11, wherein:

said hollow cylindrical body of said retainers is internally threaded to receive said first and second fasteners therein, and attach said housing to said mounting bracket.

13. A rotary latch as set forth in claim 12, wherein:

said housing includes a stop positioned along said base to abut said latch member and positively locate the same in a predetermined open position.

14. A rotary latch as set forth in claim 13, wherein:

said non-circular aperture includes at least one radially extending notch.

15. A rotary latch as set forth in claim 14, including:

a coil spring mounted in said housing and resiliently biasing said latch member toward said open position.

16. A rotary latch as set forth in claim 15, wherein:

said latch member includes at least two notches which are selectively engaged by said release member to retain said latch member in first and second closed positions.

17. A rotary latch as set forth in claim 16, wherein:

said strike notches have a generally U-shaped configuration defined by a bottom edge, and first and second side edges extending outwardly from said bottom edge.

18. A rotary latch as set forth in claim 17, wherein:  
said first side edge is disposed at a first acute angle relative to said bottom edge.
19. A rotary latch as set forth in claim 18, wherein:  
said second side edge is disposed at a second acute angle relative to said bottom edge.
20. A rotary latch as set forth in claim 19, wherein:  
said second edge is disposed closest to said first pivot axis; and  
said second acute angle is less than said first acute angle.
21. A rotary latch as set forth in claim 20, wherein:  
said bottom edge is disposed substantially parallel with said base.
22. A rotary latch as set forth in claim 21, wherein:  
said latch member includes a generally U-shaped outwardly opening notch configured  
to receive and selectively retain therein a portion of the lock strike.
23. A rotary latch as set forth in claim 22, wherein:  
said latch member notch is at least in part defined by opposed tapered outer ends to  
facilitate guiding the lock strike into said latch member notch.
24. A rotary latch as set forth in claim 23, wherein:

said latch member includes a laterally extending aperture through which said first retainer is closely received to pivotally mount said latch member in said housing.

25. A rotary latch as set forth in claim 24, wherein:

said release member includes a laterally extending aperture through which said second retainer is closely received to pivotally mount said release member in said housing.

26. A rotary latch as set forth in claim 1, wherein:

said housing includes an upstanding end wall formed integral with said base and said sidewalls at a location adjacent to said strike notches to rigidify said housing.

27. A rotary latch as set forth in claim 1, wherein:

said housing includes an open, U-shaped end disposed adjacent said second pivot axis.

28. A rotary latch as set forth in claim 1, wherein:

said first and second pivot axes lie in a plane disposed generally parallel with said base.

29. A rotary latch as set forth in claim 1, wherein:

said housing has a die cast construction.

30. A rotary latch as set forth in claim 1, wherein:

said latch member is configured and positioned to extend completely across said strike notches for improved engagement with the lock strike.

31. A rotary latch as set forth in claim 1, wherein:

said first set of mounting apertures has a size and shape substantially identical with the size and shape of said second set of mounting apertures.

32. A rotary latch as set forth in claim 1, wherein:

said first and second retainers have a substantially identical size and shape.

33. A rotary latch as set forth in claim 1, wherein:

said first and second sets of mounting apertures each include a circular aperture disposed in a first one of said sidewalls, and a non-circular aperture disposed in a second one of said sidewalls.

34. A rotary latch as set forth in claim 1, wherein:

said housing includes a stop positioned along said base to abut said latch member and positively locate the same in a predetermined open position.

35. A rotary latch as set forth in claim 1, including:

a coil spring mounted in said housing and resiliently biasing said latch member toward an open position.

36. A rotary latch as set forth in claim 1, wherein:

said latch member includes at least two notches which are selectively engaged by said release member to retain said latch member in first and second closed positions.

37. A rotary latch as set forth in claim 1, wherein:

said strike notches have a generally U-shaped configuration defined by a bottom edge, and first and second side edges extending outwardly from said bottom edge.

38. A rotary latch as set forth in claim 37, wherein:

said first side edge is disposed at a first acute angle relative to said bottom edge;

said second side edge is disposed at a second acute angle relative to said bottom edge;

said second edge is disposed closest to said first pivot axis; and

said second acute angle is less than said first acute angle.

39. A rotary latch as set forth in claim 38, wherein:

said bottom edge is disposed substantially parallel with said base.

40. A rotary latch as set forth in claim 1, wherein:

said latch member includes a generally U-shaped outwardly opening notch configured to receive and selectively retain therein a portion of the lock strike.



41. A rotary latch as set forth in claim 40, wherein:

said latch member notch is at least in part defined by opposed tapered outer ends to facilitate guiding the lock strike into said latch member notch.

42. In a method for making rotary latches of the type having a rotating latch member and a pivoting release member which selectively interact to retain and release a lock strike, the improvement comprising:

forming a rigid, generally U-shaped housing defined by a base and opposing sidewalls upstanding from opposite sides of the base in a mutually parallel relationship, with a set of laterally aligned, outwardly opening strike notches in the sidewalls to selectively receive a portion of the lock strike therein;

forming mounting apertures through both the latch member and the release member;

forming a first set of mounting apertures laterally through the sidewalls of the housing about a first pivot axis disposed generally perpendicular with the sidewalls, and spaced laterally apart from the strike notches;

inserting a first retainer through the first set of housing mounting apertures and the mounting aperture in the latch member to pivotally mount the latch member in the housing between the sidewalls for rotation in a plane generally parallel with the sidewalls;

forming a second set of mounting apertures laterally through the sidewalls of the housing about a second pivot axis disposed generally parallel with and spaced laterally apart from the first pivot axis;

inserting a second retainer through the second set of housing mounting apertures and the mounting aperture in the release member to pivotally mount the release member in the housing between the sidewalls for rotation in a plane generally parallel with the sidewalls, and selective engagement with the latch member; and

locating the first pivot axis and the second pivot axis in a laterally aligned relationship on the sidewalls to facilitate mounting the housing at both left and right hand latch locations.

43. A method as set forth in claim 42, wherein:

said housing forming step comprises die casting the housing to achieve improved rigidity.

44. A method as set forth in claim 43, including:

forming a mounting bracket adapted to mount the housing on an associated support surface, including forming first and second fastener apertures therethrough arranged so as to assume a generally coaxial relationship with the first and second retainers when positioned side-by-side; and

inserting first and second fasteners through the first and second fastener apertures in the mounting bracket, and attaching the first and second fasteners to the first and second retainers to mount the rotary latch in either right or left hand latch locations.

45. A method as set forth in claim 44, wherein:

said first and second sidewall mounting aperture forming steps include forming the first and second sets of mounting apertures with a substantially identical size and shape to receive a common retainer therein.

46. A method as set forth in claim 45, wherein:

said first sidewall mounting aperture forming step includes positioning the first set of mounting apertures in the sidewalls of the housing at a location which ensures that the latch member extends completely across the strike notches for improved engagement with the lock strike.

47. A method as set forth in claim 46, wherein:

said first and second mounting aperture forming steps include forming a circular aperture in a first one of the sidewalls, and forming a non-circular aperture disposed in a second one of the sidewalls.

48. A method as set forth in claim 47, wherein:

said housing forming step includes forming a stop in the housing at a position to abut the latch member and positively locate the same in a predetermined open position.

49. A method as set forth in claim 48, including:

assembling a coil spring in the housing to resiliently bias the latch member toward the open position.

50. A method as set forth in claim 49, including:

forming at least two notches on the latch member which are selectively engaged by the release member to retain the latch member in first and second closed positions.

51. A method as set forth in claim 50, wherein:

said housing forming step includes forming the strike notches in a generally U-shaped configuration defined by a bottom edge, and first and second side edges extending outwardly from said bottom edge;

orienting the first side edge at a first acute angle relative to said bottom edge;

orienting the second side edge at a second acute angle relative to said bottom edge; and

positioning the second edge closest to the first pivot axis, and forming the second acute angle less than the first acute angle.

52. A method as set forth in claim 51, including:

forming a generally U-shaped outwardly opening notch in the latch member to receive and selectively retain therein a portion of the lock strike, and having a tapered outer end to facilitate guiding the lock strike into said latch member notch.

53. A method as set forth in claim 52, wherein:

said housing forming step includes integrally forming an end wall upstanding from the base at a location adjacent to the strike notches to rigidify the housing.